Multichoice Quetions

1. Atributes _________
   a. are listed in the second part of the class box
   b. its time is preceded by a colon.
   c. its default value is preceded by an equal sign
   d. its name has undereline
2. Associations may be ________
   a. one
   b. binary
   c. ternary
   d. higher order
3. A_________ aggregate has a finite number of levels, but the number of parts may vary
   i. fixed ii.recursive iii.level iv.variable
4. A ________ class is a class that is instantiable that is it can have direct instance.
   i. multiple ii. Multilevel iii. Concrete iv.abstract class
5. A class with more than one super class is called a______ class
6. i. combine ii. join iii. diffrent iv. Direct
7. Overriding is done for the following reasons
8. i. for extension ii. for restriction iii.for optimization iv. for design
9. _________ is the sharing of attributes and operations among classes base on hierarchical relationship.
10. a. Classification b. Identity c. Inheritance d. Polymorphism
11. __________ model is used to specify and implement the control aspect of a system
12. a. Function b. Dynamic. c. Object d. None of these
13. _________ Diagram describes how a particular set of objects relate to each other.
14. a. Object b. Instance c. Class d. None of these
15. An ________ describes a group of links with common structure and common semantics.
16. a. Link b. attribute c. method d. association
17. A qualified assosiction relates two object, classes and a ______
18. a. entity b.subclass c. qualifier d. role
19. _________ errors are identified during analysis and report on constraints that exist in the problem domain
20. i. protect ii. logical iii. syntax iv. application
21. ________ ability take more than one form
22. i. Inheritance ii. Generalization iii. Polymorphism iv. Abstraction
23. _______ refer to the names of variable , functions ,arrays and classes etc. created by the
24. programmer
25. i. Constant ii. Identifier iii. Variable iv. Keyword
26. _______ are operators that are used to format the data display
27. i. logic ii. Relations iii. manipulators iv none of these
28. An _________ is combination of operators, constants and variables,arrange as per the rules of the language .
29. i. program ii.error iii.expression iv. operation
30. Which of the following variable declaration are correct?
31. i. int a; ii.float f; iii.char c; iv int Abc;
32. Which of the following derive types of data types
33. i. array ii. Function iii.pointer iv.structure
34. Which of the following member dereferencing operators
35. i. **::** * ii * iii ->* iv. **?:**
36. An object cannot invoke a ________ function using the dot operator
37. i. private ii.public iii.static iv none of these

38. A __________ function ,although not a member function has full access rights to the private members of the class

39. i. inline.　　i. inside　　iii.friend　　iv. Outside

40. A constructor that accepts no parameters is called the ________ constructor

41. i. parameterized　　ii.copy　　iii. Dynamic　　iv. Default

42. Constructor ________

    a. should be declared in the public section
    b. are invoked automatically when the objects are created
    c. can have defaults arguments
    d. can be virtual

43. Destructors __________

    a. is used to destroy the object that have been created by constructors
    b. whose name is the same as the class name but is preceded by the tilde
    c. will be invoked implicitly by the compiler upon exit from the program
    d. take any argument and return any value

44. The casting operator function should the following conditions

    a. It must be a class member
    b. It must not specify a return type
    c. It must not have any arguments
    d. It must specify a return type

45. We can overload almost all the c++ operators except the following

    a. scope resolution operator　　ii. Size operator
    b. Conditional operator　　iv. binary operator

46. The mechanism of deriving a class from another derive class is known as ________ inheritance

    i. i.single　　ii. multiple　　iii. Multilevel　　iv. Hybrid

47. virtual void display( ) = 0; is _______ function

    i. i. pure　　ii. Proper　　iii. improper　　iv. None of these.

48. Virtual function ______

    a. must be members of some class
    b. cannot be static members
    c. are access by using object pointer
    d. iv cannot be a friend or another class

49. Which header file provides a set of functions for manipulators

    a. i. iomanip　　ii. iostream　　iii.stdio　　iv none of these

50. Which function to define the width of a field necessary for output of an item?

    a. i. precision( )　　ii. fill( )　　iii. width( )　　iv. None of these

<u>Question for four marks</u>

1. Discuss OMT methodology models
2. Explain object oriented themes
3. Give characteristics of object
4. What is aggregation? Explain its properties
5. Explain generalization and Inheritance
6. Explain Multiplicity in detail
7. Discuss concept of rolenames
8. Explain qualification in association
9. What is homomorphism? Explain in detail
10. What is overriding? Explain its resons
11. Explain aggregation Vs association
12. What is extensibility? Explain object oriented enhances extensibility
13. Discuss reusability with various style rules
14. What is OOPS paradigm ? Give striking features of OOPS
15. What is Object? Give principal advantages of it
16. What is Inheritance? Give applications of OOPs
17. How are data and function organized in object oriented program
18. Explain scope resolution operator
19. Explain reference variable with suitable example
20. Discuss various manipulators with suitable example
21. What is control structure? Explain Switch Statement in detail
22. What is variable? Explain dynamic initialization of variables
23. Discuss inline function
24. Describe the output following program

    ```
    int main( )
    {
            for( inti=0;i<8;i++)
            if ( i%2 = = 0) cout << i +1 << “\t”;
            elseif (i%3 = = 0) cout << i*i << “\t”;
            elseif (i%5 = = 0) cout << 2 * i – 1 <<”\t”
            else cout <<  i << “\t”;
    }
    ```

25. Write a program for display first positive 10 integers (using if and for loop)
26. Explain friend function with suitable Example
27. Discuss pointers to members
28. What is static data members? Explain static member function
29. class xyz

    ```
    {
            int x;
            int y;
    public:
            int z;
    };
    ```

    ____

```
________
xyz   p;
p.x=0;
p.z=10;
________
________
```

In above code find which statement will not execute and why?

30. Correct errors of following program and include missing items

```
class  exam
{
        int x;
public:
};
void main( )
{
exam  a1;
a1.read( );
a1.show( );
exam a2=10;
a2.show( );
}
```

31. What is Destructor? Explain in detail
32. Explain Copy constructor with suitable example
33. How parameterized constructor works? In detail
34. integer int1 = integer(0 , 100);
    integer int1(0, 100);
    what is the use of above tow statements? Discuss there difference
35. List rules for overloading operator
36. How we can overloaded operator? Explain with example.
37. Discuss with example overloading operator using friend function
38. What are abstract classes? Give example
39. Which different inheritance methods are there in c++? Explain any four
40. Write note on private member function
41. What is virtual base class? When do we may a class virtual?
42. Explain virtual function. Why do we need virtual function?
43. Explain in brief this pointer in c++ with suitable example
44. Explain pointers to object with suitable example
45. How do the following two statements differ in operation?
    cin>>c;
    cin.get(c);
46. Both cin and getline ( ) functions can be used for reading a string. Comment
47. Discuss the syntax of setf( ) with example
48. What will be the reason of the following program segment?

```
for( i=0.25;i<=1.0;i=i+0.25)
{
        cout.pricesion ( 5 );
        cout.width (7);
        cout << i;
        cout.width (10);
        cout<< i*r<< “\n”;
}
        cout<<setw(10)<< “total=”
        <<setw(20)<<setprecision(2)<<1234.567
        <<endl;
```

49.Explain function template with example

50.What is an exception? How is an exception handle in c++?

51.Why the templates are used? Explain class templates

52. What are the advantages of using exception handling mechanism in a program?

- -

1. Write a program to print
   1
   1 2
   1 2 3
   1 2 3 4
   1 2 3 4 5
2. Write a program to that will ask for a temperature in Fahrenheit and display it in Celcius.
3. Write a program to input an integer value from keyboard and display on screen ” HELLO”.
4. Write a program to read a value of a, b and c & display the value of x where x=a/b-c.
5. Write a program to display the sum of the digits in a given number.
6. Write a program to add two matrices using for loop.
7. Write a program to calculate the area of a circle.
8. Write a program for sum of even numbers in a given range.
9. Write a program to check whether the year entered by the user is Leap year or not.
10. Write a program to print
    1
    2 2
    3 3 3
    4 4 4 4
    5 5 5 5 5

Questions for one Mark

1. What is method ?
2. Define Encapsulation .
3. Define Concept of classification
4. What is Analysis?
5. What is Attribute?
6. What is Link?
7. Define Multiplicity.
8. What is Role?
9. Define Ordering.
10. What is propagation ?
11. Give the use of delegation
12. Define candidate key
13. What is constraint :?
14. Define homomorphism
15. Which approach is to factor out the common code into a single method the is called by each
    method
16. What is factoring?
17. Which provides a proper mechanism to archive the desired code reuse
18. What is message passing ?
19. Define dynamic binding
20. What is data hinding?
21. What is class?
22. Define encapsulation
23. What is Token?
24. Deifine keyword
25. What do you mean by reference variable?
26. Give purpose of manipulators
27. What is purpose of "new" operator.
28. Give syntax for accessing class members
29. How to create object of class?
30. Which two places define member function?
31. What is constructor ?
32. Can constructor be virtual ?
33. What is dynamic constructors?
34. Give the general forms of operator function
35. How many operand takes when we use "__" operator as unary
36. Give three types of situation might arise in data conversion
37. What is inheritance ?
38. Can a class be derived from another derived class which is known as multilevel inheritance?
39. Dose the derive class inherits some or all of the properties of the base class
40. What is containership?
41. item *ptr = new item[10]; is it possible ?
42. this -> a = 123; is it correct?
43. Can a virtual function be a friend of another class?
44. What is input stream?
45. What is output stream?
46. Give syntax for display an entire line using write( )
47. Write use of fill( )

48. Define Polymorphism

Answer the following (2 marks each)

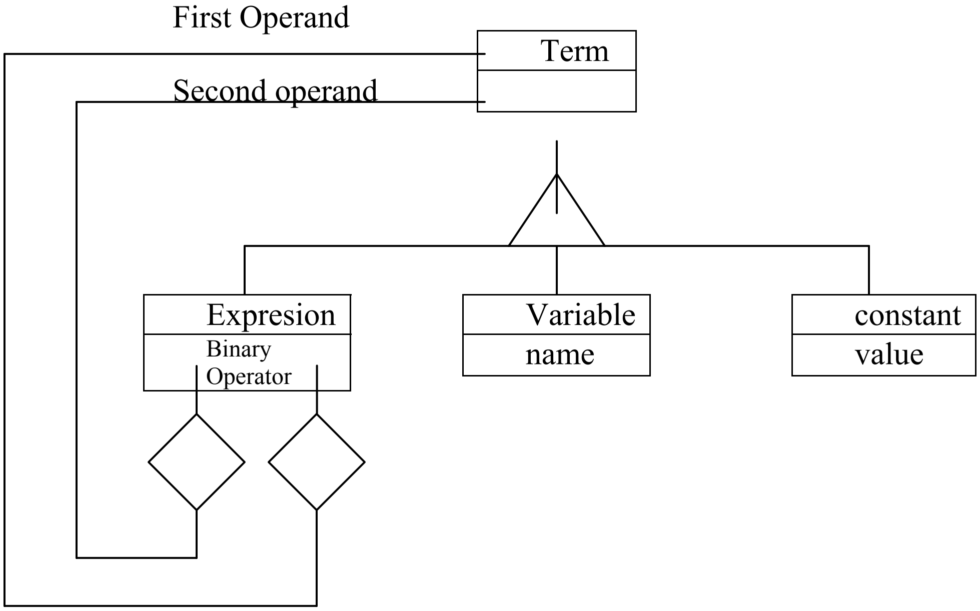
1. Why do we need the preprocessor directive #include<iostream.h> ?
2. Write a program to read two numbers from the keyboard and display the larger value on the screen.
3. Enlist the rules of naming the variable in C++.
4. Explain the data types in C++.
5. Why array is called a derived data type?
6. When do we need to use default arguments in a function?
7. What is the main advantage of passing arguments by reference?
8. What is a class? How does it accomplish data hiding?
9. What are objects? How are they created?
10. When do we declare a member of a class **static**?
11. How do we invoke a constructor function?
12. What is a parameterized constructor?
13. Describe the importance of destructors.
14. Why is it necessary to overload an operator?
15. When do we use the protected visibility specifier to a class member?
16. What is virtual base class?
17. What does **this** pointer point to?
18. Why do we need virtual functions?
19. What is the use of Templates?
20. What do you mean by Encapsulation?
21. Explain Multiplicity in brief.
22. Explain polymorphism in brief.
23. Give syntax of do- while loop.
24. Give syntax of while loop.
25. Give syntax of for statement.
26. Explain Dynamic Binding in brief.
27. Write down the benefits of OOPs.
28. Explain the special operators in C++.
29. Explain memory management operators in brief.
30. Give the characteristics of static data member variable.
31. Enlist the characteristics of friend functions.
32. Enlist the any 4 rules for virtual functions.
33. Explain getline() function.
34. Explain fill() function.
35. Explain class templates with multiple parameters with suitable example.

<u>Questions for 6 Marks</u>

1. What is aggregation? Compare and contrast aggregation and generalization.
2. Explain different object modeling techniques in brief.
3. Define constraints. Explain constraints on links.
4. What are candidate keys? Compare multiplicity with candidate keys for binary association.
5. What do you mean by State Diagram? Draw a state diagram describing the behavior of a telephone line.
6. What are Events? Explain how states and events are related with state diagrams.
7. What are states? Explain how state diagrams are useful in dynamic modeling.
8. Explain multiple inheritance with suitable example.
9. What are abstract classes? Compare abstract classes with concrete classes.
10. What is aggregation? Explain aggregation versus association.
11. What is object? Explain the relationship between objects and classes.
12. What are attributes? Explain how attributes are used in object and class diagrams with suitable example.
13. Explain Switch statement with example.
14. Explain the structure of C++ program.
15. Compare While and Do-While loops with examples.
16. Explain For statements in detail.
17. What are Functions? Explain function prototyping in detail.
18. What do you mean by call by reference and return by reference?
19. Explain Inline functions in brief.
20. Write a short note on : function overloading.
21. What are Constructors? Explain the special characteristics of constructors.
22. Can constructors be overloaded? If yes, how they are overloaded?
23. Explain Copy Constructors with suitable example.
24. Compare Constructors and Destructors.
25. Write a short note on : Operator Overloading.
26. What is Operator Overloading? Give the rules for operator overloading.
27. Write a program in C++ to concatenate two strings by ‘+’ operator using the concept of operator overloading.
28. What are the advantages of function prototypes in C++? Describe different styles of writing prototypes.
29. Write a function to read a matrix of size m x n from the keyboard.
30. Can we have more than one constructor in a class? If yes, explain the need of each situation.
31. Define a class string? Use overloaded == operator to compare two strings.
32. A friend function cannot be used to overload the assignment operator = . Explain why?
33. A class alpha has a constructor as follows:
34. alpha(int a, double b);
35. We have two classes X and Y. If a is an object of X and b is an object of class Y. And we want to say a=b; What type of conversion routine should be used and where?
36. What do you mean by Inheritance in C++? What are different forms of Inheritance with suitable example for each.

37. What is Containership? How does it differs from Inheritance.
38. Explain with suitable example how you would create space for an array of objects using pointers.
39. What is a Virtual function? Explain its need.
40. When do we make a virtual function “pure”? What are the implications of making a function a pure virtual function.
41. What is the basic difference between manipulators and **ios** member functions in implementation? Give examples.
42. A template can be considered as a kind of macro. What is the difference between template and a macro.
43. A class(or function) template is known as a parameterized class (or function). Comment.
44. Write a function template for finding the minimum value contained in an array.
45. Write a class template to represent a generic vector. Include member functions to perform the following tasks:
46. To create a vector.
47. To modify the value of a given element.
48. To multiply by a scalar value.
49. To display the vector in the form(10,20,30,………)
50. Define two classes **Polar** and **Rectangle** to represent points in the polar and rectangle systems. Use conversion routines to convert from one system to the other.

51. Prepare an instance diagram for the class diagram in following figure for expression (x + y / 2) / (x / 3 + y) parenthesis are used in the expression for grouping but are not needed in diagram.



52. Explain various object oriented styles in detail
53. What is robustness? Discuss robustness against user errors should never be sacrifice.

54. What is the use of main( ) function explain call by value and call by reference
55. Discuss in detail memory management operators
56. Explain various datatypes in C++ in detail
57. Define a class to represent a bank account including following

Data members	Member Function
a. name of depositor	a. to assign initial values
b. account number	b. to deposit an amount
c. type of account	c. to withdraw an amt after
checking the values	
d. balance amount in account	d. to display name and
balance	

58. Write a program for handling ten customers using array of object and above data
59. What is visibility mode ? What are differences between inheriting class with public and private visibility mode , Explain with example
60. When do we make a virtual function " pure " ? What are the implications of making a functions as pure virtual functions

61. Identify errors if any in the following statements:-
62. 1.catch(int a, float b)

```
{-----------}
2. try
{ throw 100;}
3. try
{ fun1( )}
4. try
{ throw x/y;}
5. catch(int x , -- , float y)
{-----------------------}
6. try
{ if(!x) throw x;}
catch(x)
{
cout<<"x is zero \n";}
```